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Covid Pneumonitis Presenting as Intractable Hiccups

Obinna Ezeigwe, Khizar Hayat, Ahmed Elgohary, Shahid Shahid

Department of the Care of the Elderly, East Kent Hospitals University NHS Foundation Trust, Ashford, UK
Email: obinna.ezeigwe@nhs.net

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Abstract

Background: Hiccups, also known as Singletus, can be a cause of worry and anxiety for most patients when persistent. It has long been associated with various infectious pathologies. Its association with SARS-COV-19 is relatively new with only a few cases reported so far. This case report highlights a unique presentation of Covid pneumonitis as intractable hiccups as the only symptom. With adequate laboratory and instrumental investigations, the aetiology was found to be Covid pneumonitis. Once the cause was detected and treatment initiated, the symptoms subsided. **Conclusion:** While hiccup can be a sign of various underlying chronic illnesses, its association with Covid-19 is relatively new with very few literatures reporting this finding. It is very crucial for clinicians to keep a high index of suspicion in patients presenting with hiccups.

Keywords

Intractable Hiccups, Covid-19, Ronapreve, Delta Variant

1. Introduction

Hiccup is a benign and self-limiting condition, usually not requiring any intervention. Described in most literatures as a brief contraction of the muscles of inspiration lasting seconds to minutes, terminating with sudden closure of the glottis [1] [2], it could be benign lasting <1 hour or intractable and persistent (days to years). Various causes of hiccups can be categorised as cardiovascular (myocardial infarction, pericarditis), post-operative, medications, psychogenic, toxic causes (alcohol, uraemia, electrolyte derangements), central nervous system disorders (head trauma, stroke, multiple sclerosis, AVM malformations) and vagus and phrenic nerve irritation [3] [4]. Covid-19 is a relatively new disease that primarily affects the respiratory system. Not much was known when it

emerged, but as cases continued to rise, several reports began to appear, describing its varied clinical presentation and multi-system involvement [5]. As of April 2020, there were over 8000 published cases of Covid-19 in several journals spanning the globe [6]. With its emergence in late 2019, the commonest symptoms reported were fatigue, myalgia, cough, shortness of breath, new loss of taste or smell, diarrhoea, and sore throat [5] [7]. There have been 11 documented cases of its association with intractable hiccups with most cases responding to medical intervention while a few did not require any intervention at all before abating [5]. This is a case of a 65-year-old independent man presenting with relentless hiccups which were the chief complaint. A very detailed history, examination and series of investigations revealed the underlying pathology.

2. Case Report

A 65-year-old gentleman was brought into the emergency department via ambulance due to a 5-day history of persistent and debilitating hiccups. 2 days prior, he felt generally unwell with fever and body aches. On presentation, he stated he had tried Gaviscon at home to ease his hiccups but with no effect. He reported no drug allergies.

He had a past medical history of ischaemic heart disease, type 2 diabetes mellitus, hypertension, central obesity, and obstructive sleep apnoea.

Upon admission, his hiccups persisted. His vital signs were, blood pressure 135/63, heart rate 109, respiratory rate 19 and afebrile. He was hypoxemic on admission, needing oxygen supplementation to maintain his saturations above 94%. On auscultation of chest there were bi-basal crepitations which were the only finding. Examination of other systems was unremarkable.

Chest X-ray showed widespread opacities bilaterally, predominantly in the middle and lower zones. In view of his increased supplemental oxygen requirement and chest X-ray findings, a CTPA (Computed Tomographic Pulmonary Angiogram) was done which ruled out pulmonary embolism but further demonstrated a patchy ground-glass shadowing signifying pneumonitis and an incidental finding of a pulmonary hamartoma.

Laboratory investigations demonstrated C-reactive protein of 20, leucocytosis 14,000 cells, raised lactate (2.1), and sodium of 133. Rest of the blood tests like urea, liver function test and troponin were normal. His Covid PCR test was positive for SARS-Cov-2 (Delta Variant). Covid antibody test demonstrated he was sero-negative for Anti-Covid IgG. Blood cultures done on admission showed no growth in aerobic or non-aerobic bottles.

As he was sero-negative for Anti Covid IgG, he received combination of neutralising monoclonal immunoglobulin of Casirivimab and imdevimab (Ronapreve) infusion according to NICE (National Institute for Health and care Excellence) recommendations for managing Covid-19 pneumonitis in hospital. This was in addition to standard dexamethasone treatment regimen. Within a few days of commencing treatment his hiccups resolved without any recurrence. Supple-

mental oxygen was gradually and successfully weaned off and patient was discharged back to his home to be seen in a respiratory clinic in 6 weeks. (Figure 1 & Figure 2)

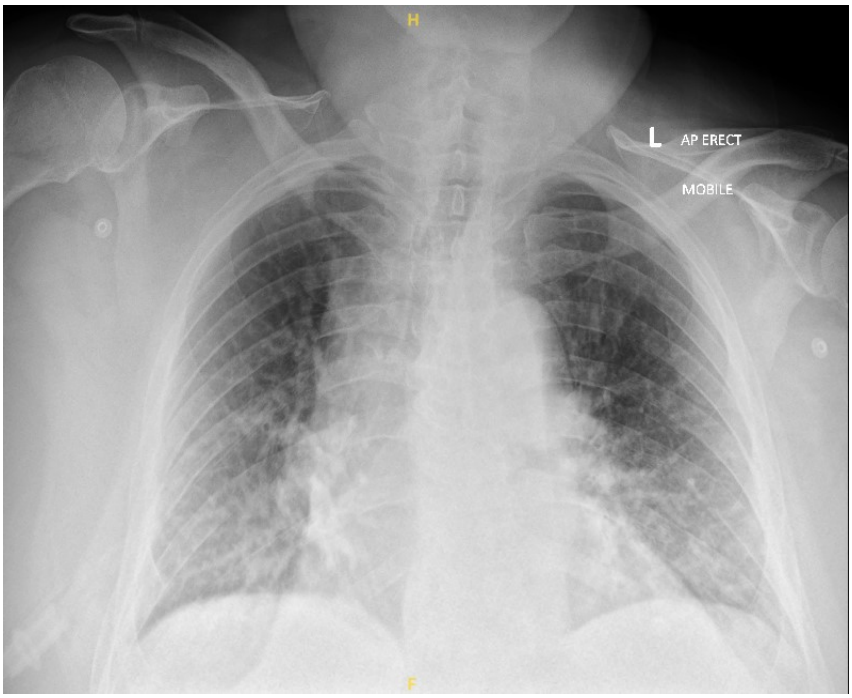

Figure 1. Chest X-ray demonstrating widespread opacities bilaterally, more predominant in the middle/lower zones.

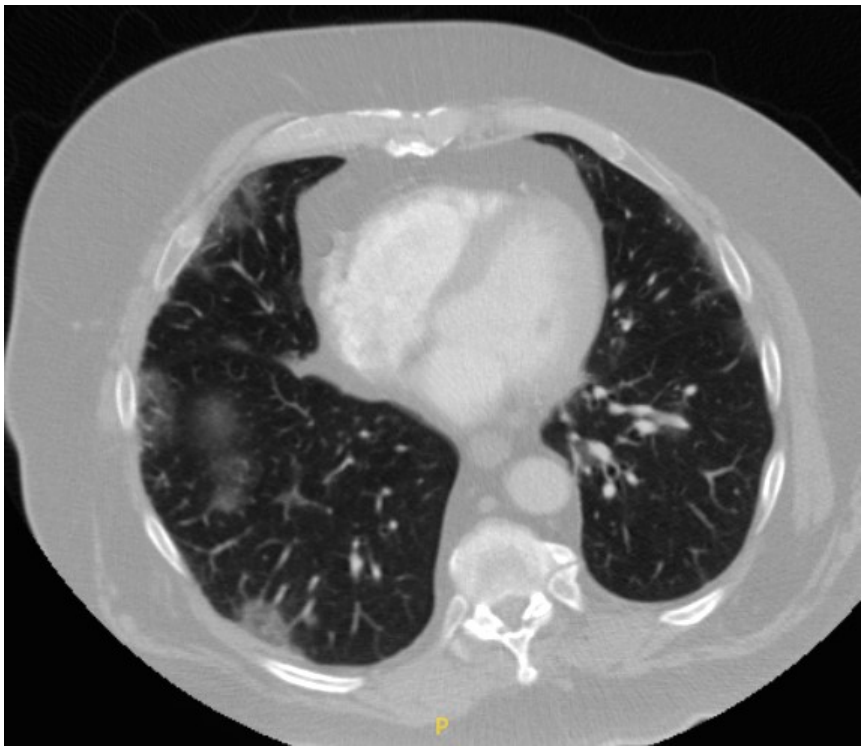

Figure 2. CT chest showing peripheral ground glass opacities.

3. Discussion

Covid-19 was declared a pandemic on the 11th of March 2019 with over 200 countries in the world affected [3]. There are few literatures that have reported association of Covid-19 with intractable hiccups [3]. Here we look at the index case in our facility whose sole reason for presenting to hospital is the hiccups that persisted for days and became a cause for worry. But before this, understanding the hiccups reflex is a must to gain good insight into how pathological processes can lead to hiccups.

The hiccups reflex simply consists of the afferent, reflex centre, and efferent limb, all working in unison. Afferent impulses are transmitted to the hiccups centre (hypothalamus, brain stem and cervical spinal cord segments C3-C5) via the phrenic nerve and then to the efferent's consisting of (phrenic nerve, anterior scalene muscles, external intercostals and glottis [4].

Looking at the involvement of the bulk of the respiratory apparatus in the hiccups reflex, it won't come as a surprise as to how inflammatory processes of the respiratory system can lead to hiccups via irritation of the phrenic nerves or even by direct involvement of the structures themselves [4]. In some patients that present with hiccups, identifying the cause can be a challenge.

As far as we know, there have been only a handful of cases published so far of Covid-19 and its association with hiccups. There are so far a few similarities in that in most cases, hiccups were the presenting complaint prior to diagnosis of Covid pneumonitis and most patients were above 55 with multiple co-morbidities like hypertension and diabetes mellitus [4] [5]. Treatment and response varied with most receiving dexamethasone, baclofen, metoclopramide, chlorpromazine ivermectin and even azithromycin [5] [6]. Our patient got better days after treatment with monoclonal antibodies and dexamethasone. Whether his response was to the monoclonal antibodies administered or dexamethasone remains quite unclear. However, I believe the consensus is that a resolution of the infectious process could have led to improvement in symptoms, *i.e.*, hiccups. 6 weeks after his admission, he was followed up in the clinic and doing a lot better and back to his baseline.

4. Conclusion

Covid-19, a very new infection that has plagued the world since early 2020, has presented us medical professionals with varying degrees of challenges ranging from very unusual presentations to complications. Singultus (hiccups), even though benign, can be a serious cause of worry for some patients, and in most cases when persistent, can interfere with day-to-day activities. Its association with Covid-19 is relatively new. Therefore, maintaining a high index of suspicion is key to early triage and timely intervention.

Consent for Publication

A written consent was obtained from the patient for this publication.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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